



# Successful Closure of a Gastroesophageal Anastomotic Fistula Using Endoscopic Suturing with Overstitch™

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## Purpose

We present our technique for performing endoscopic suturing with OverStitch™ to close an anastomotic fistula.

## Materials and Methods

Here, we present a case study of a 55-year-old man who underwent radical surgery for the treatment of esophageal cancer in December 2017. He suffered from bucking 1-month postoperation, and he accepted a jejunal tube for nutrition over a period of 5 months. An anastomotic fistula 25 cm from the incisors was confirmed on gastroscopic examination (Fig. 1A and B) and meglumine diatrizoate radiography

(Fig. 1C). Therefore, fistula closure by endoscopic suturing was performed (Fig. 2 and Video 1).

## Results

The procedure was performed as follows: first, we observed the position of the fistula by using a conventional endoscope (Olympus GIF-Q260J). Second, we performed argon plasma coagulation (APC) around the fistula. Third, an overtube (OverTube™ Endoscopic Access System, Apollo Endosurgery) was placed into the esophagus. Fourth, OverStitch™ was installed in the double lumen endoscopy instrument (Olympus GIF-2T240). Fifth, a tissue helix and 2/0 Prolene (Apollo Endosurgery) suture stitch were inserted into the double lumen, and the fistula was stitched by continuous stitching. A total of 4 stitches were placed with 1 suture. The operation time was 96 min without adverse events. The patient accepted meglumine diatrizoate radiography (Fig. 3A) and gastroscopic examination for 3 months postprocedure (Fig. 3B), which showed the successful closure of the fistula. The patient's symptoms were significantly relieved postprocedure.

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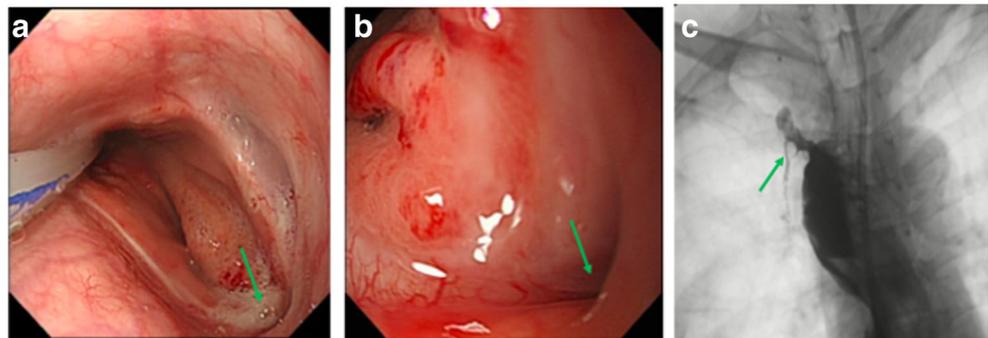
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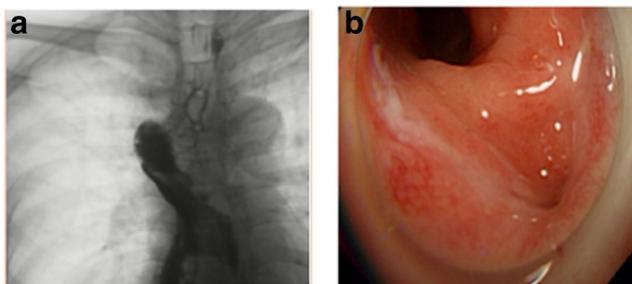
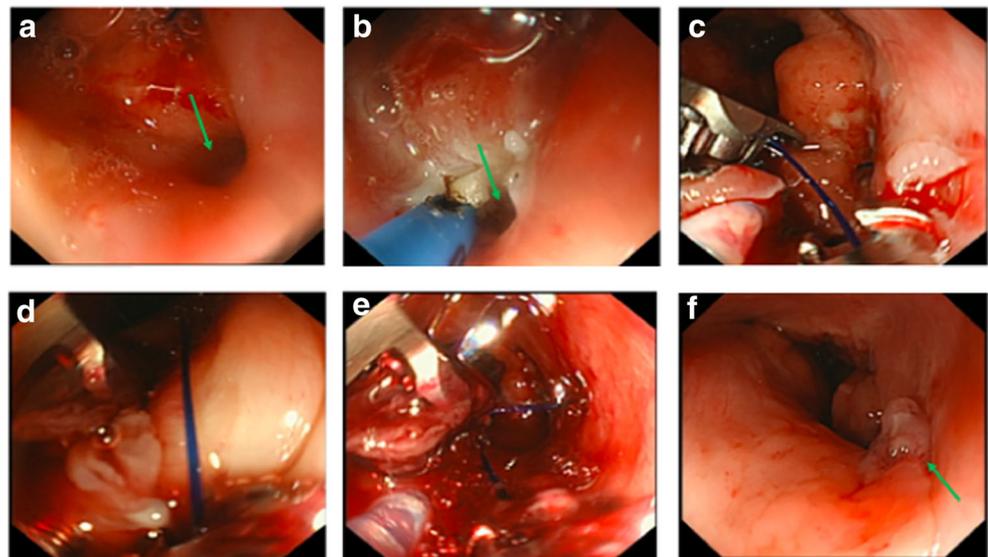
## Conclusions

This video demonstrates the feasibility and safety of endoscopic suturing with OverStitch™ to close an anastomotic fistula.

**Fig. 1** The gastroscopic examination and meglumine diatrizoate radiography preprocedure



**Fig. 2** Closure was performed as visualized in the following panels. A, The position of fistula was determined by the use of a conventional endoscope; B: APC around the fistula; C, tracheoesophageal fistula; C–E, closure of the fistula; F, fistula after closure



**Fig. 3** The meglumine diatrizoate radiography (panel A of this figure) and gastroscopic examination (panel B of this figure) 3 months postprocedure

**Author Contributions** Xuan Li and Weifeng Zhang collected the data and wrote the manuscript. Liuqin Jiang contributed to the clinical review. Lei Peng contributed to the discussion. Guoxin Zhang designed the study,

provided the case, and made critical revisions. All authors approved the final version of the manuscript.

### Compliance with Ethical Standards

**Conflict of Interest** The authors declare that they have no conflict of interest.

**Statement of Informed Consent** Informed consent was obtained from all individual participants included in the study.

**Statement of Human and Animal Rights** For this type of study, formal consent is not required.